FULL RCM PROGRAM TASK SEQUENCE FLOWCHART

STEP 1
Develop/update RCM Program Plan

STEP 2A
Current Equipment Design

STEP 2B
New Equipment Design Recommended

STEP 3
Complete End Item & Level 1 Breakdown

STEP 4
Complete Level 2 Breakdown

STEP 5
Complete Levels 3 and 4 Breakdowns

STEP 6
Identify all functions

STEP 7
Perform Functional Significance Determination for each function

FUNCTIONAL SIGNIFICANCE DETERMINATION LOGIC

- **Does the loss of function have an adverse effect on safety or environment?** — Yes
- No
- **Does the loss of function have an adverse effect on operations?** — Yes
- No
- **Does the loss of function have an adverse effect on economic?** — Yes
- No
- **Is this function protected by an existing PM task?** — Yes
- No
- **NON-SIGNIFICANT FUNCTION**
- **SIGNIFICANT FUNCTION**

Steps 8 and up steps are not to be performed for this function.

Perform STEP 7 for next function.

STEP 8
Identify all functional failures and Compensating Provisions

STEP 9
Identify all failure modes and their failure effects (Local, Next Higher & End Effects)

STEP 10
Select Severity Class for the failure mode

SSWG
to Severity Classification of failure modes

STEP 11
Complete FMECA.

Select a failure mode for RCM Analysis and perform **STEPS 11 thru 23**

STEP 12
Collect failure and test data

STEP 13
Calculate or estimate failure distribution curve

STEP 14
Calculate or estimate time to first failure

A

- RCM ANALYSIS TASKS
- IMPLEMENTATION TASKS
- OPERATIONS
- FMECA TASKS
- RELIABILITY ANALYSIS
- REDESIGN / CIP TASKS
- OTHER EVENTS
- FEEDBACK TASKS

FULL RCM PROGRAM TASK SEQUENCE FLOWCHART

STEPS 18

Answer
failure consequences questions.
(MODULE 10)

Is the functional failure or effect of the failure mode, on its own, evident to the operator while performing normal duties?

YES

EVIDENT
Does the failure mode cause a function loss or secondary damage that could have an adverse effect on operating safety or lead to serious environmental violation?

YES

Evident
Safety / Environment

NO

Evident
Economic / Operational

NO

HIDDEN
Does the occurrence of the hidden failure mode in combination with a second failure / event cause a function loss or secondary damage that could have an adverse effect on operating or lead to serious environmental violation safety?

NO

Hidden
Economic / Operational

YES

Hidden
Safety / Environment

STEP 18A
Develop
PHM task

STEP 18B
Develop
Servicing / Lubrication PM task

STEP 18C
Develop
On-Condition PM task

STEP 18D
Develop
Hard Time PM task

STEP 18E
Develop
Other Action

STEPS 18A THRU 18F REQUIRED INFORMATION (as applicable, not all data required for all FM's)

Description for each task

Determine
Number of OC or PHM tasks required during PF interval to meet Pacc

Determine
PM intervals for all tasks

Determine
Single task total man-hours and cost

STEP 18A
Develop
PHM task

STEP 18B
Develop
Servicing / Lubrication PM task

STEP 18C
Develop
On-Condition PM task

STEP 18D
Develop
Hard Time PM task

STEP 18E
Develop
Other Action

STEP 18F
Develop
Failure Finding PM task

B

C

D

E

A

STEP 15
Will this failure mode happen within the service life of the equipment?

NO

Steps 16 and up steps are not to be performed for this failure mode.

GO TO STEP 23

YES

STEP 16
Determine whether failure has PF, wear out, or random type failure characteristics

STEP 17
Determine or estimate PF condition, PF-FF interval or wear out/life limit age

FULL RCM PROGRAM TASK SEQUENCE FLOWCHART

B

STEP 19

Determine costs associated with each **STEP 18A thru 18E** item

STEP 20

Analysis / Select which option or combination of options is best at meeting RCM metrics

* **PM Task/s required**

Redesigned required

GO TO STEP 2B

C

STEP 19

Determine costs associated with each **STEP 18A thru 18E** item + No action taken costs

STEP 20

Analysis/ Select which option or combination of options is best at meeting RCM metrics

Redesigned required

No action required

STEP 21

Provide usage prediction data (STEP 13) to logistics to ensure adequate replacement parts are available

No additional analysis is required. GO TO STEP 23

D

STEP 19

Determine costs associated with each **STEP 18A thru 18F** item + No action taken costs

STEP 20

Analysis/ Select which option or combination of options is best at meeting RCM metrics

* **PM Task/s required**

E

STEP 19

Determine costs associated with each **STEP 18A thru 18F** item

STEP 20

Analysis/ Select which option or combination of options is best at meeting RCM metrics

* **PM Task/s required**

Redesigned required

GO TO STEP 2B

Was engineering judgment / estimated values used during any part of the RCM analysis?

YES

STEP 22

Develop Age Exploration task

NO

* - PMA / APML

Direct PM task to be implemented regardless of RCM results

STEP 23

Repeat **STEPS 11 thru 23** until all FM(s) have been analyzed

Is hardware in-service or undergoing design testing?

Design Testing

STEP 24

Review RCM results with designers and potential operators/maintainers for inputs

In-service

STEP 24

Review RCM results with SSWG, FST, maintainers and operators for inputs. **(MODULE 14)**

Recommended PM acceptable?

YES

STEP 25

Perform Packaging Process

STEP 26

Perform LORA and update maintenance plan

F

NO

Go to **STEP 2B**

FULL RCM PROGRAM TASK SEQUENCE FLOWCHART